

FIG. 1

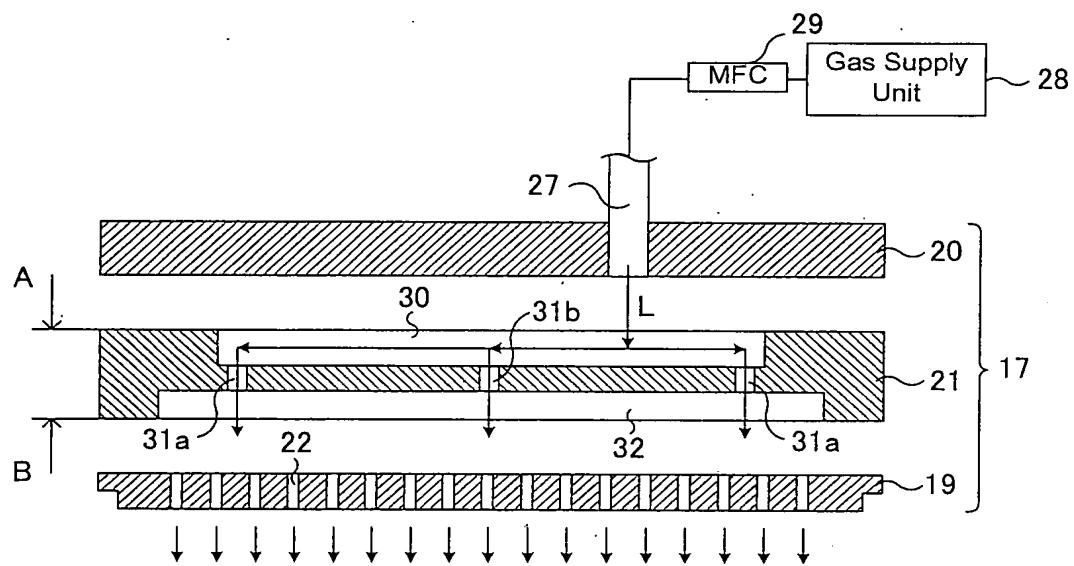
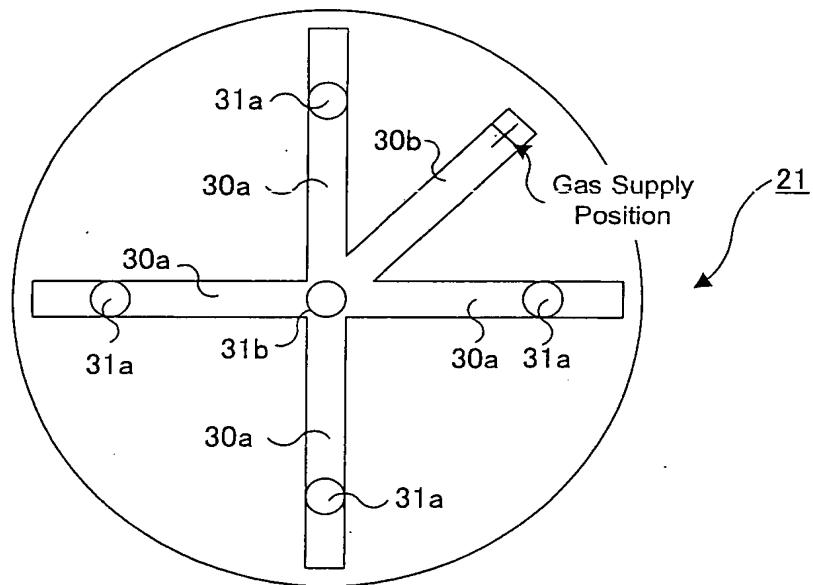
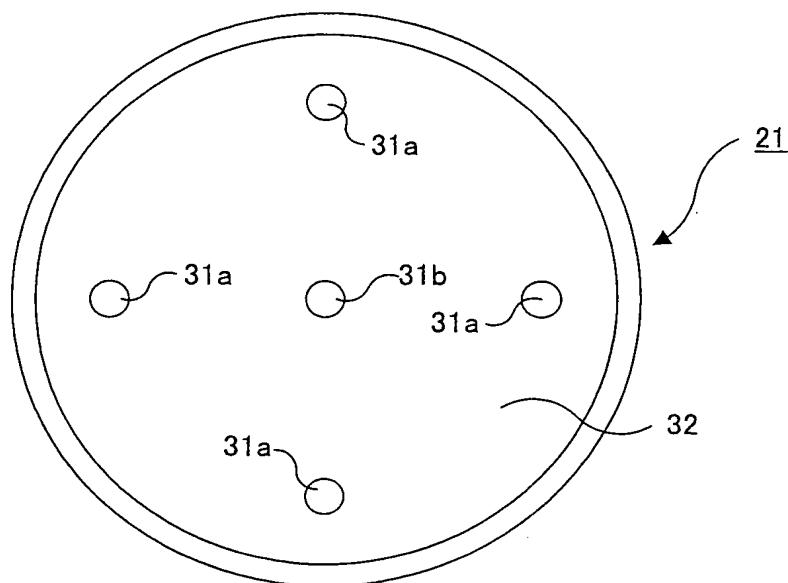


FIG.2

3/13



*FIG.3* Diagram As Seen From Arrow A



*FIG.4* Diagram As Seen From Arrow B

4/13

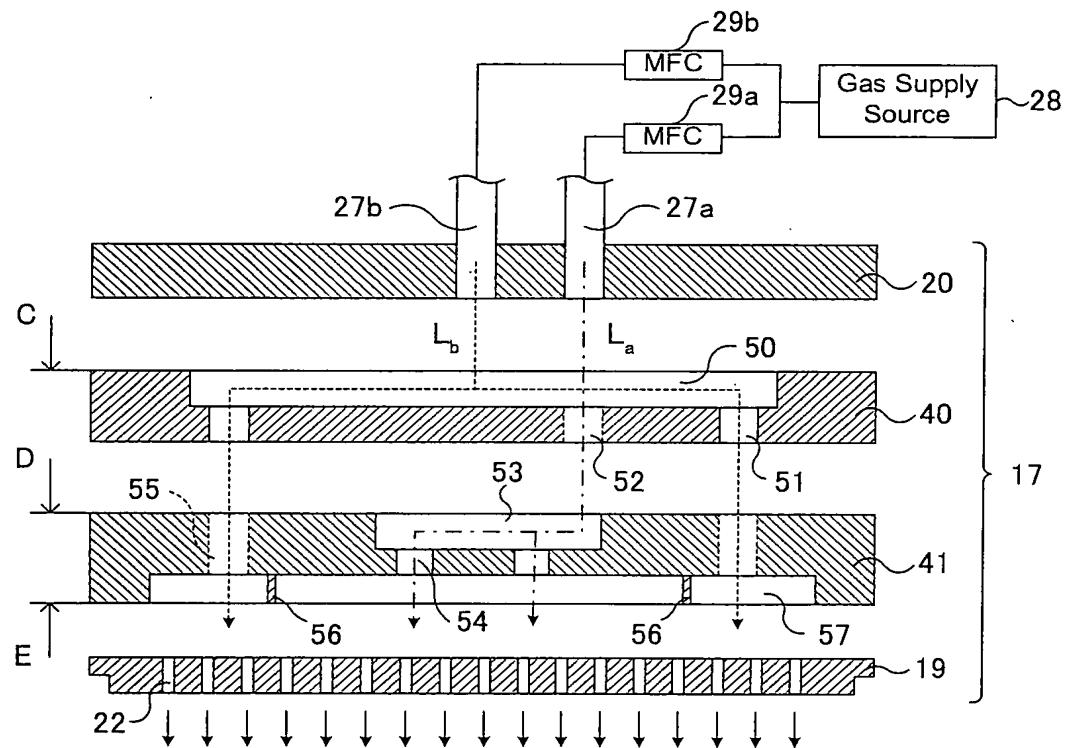


FIG.5

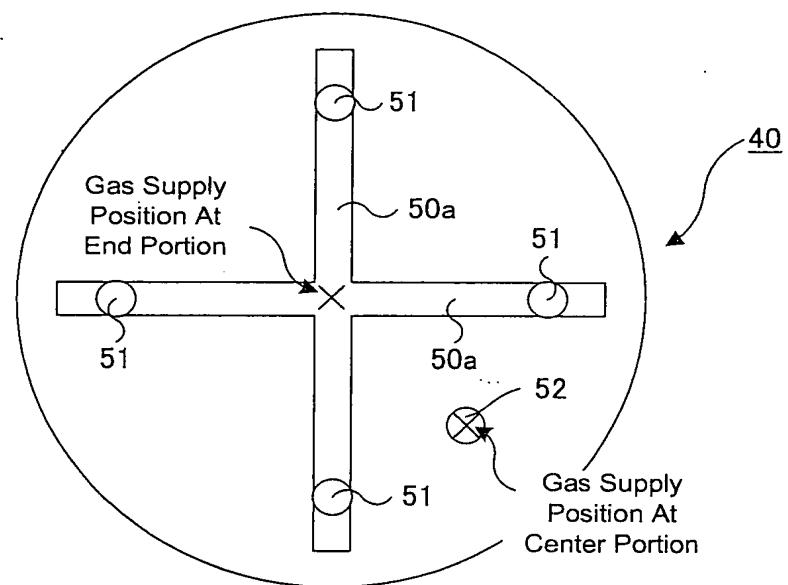
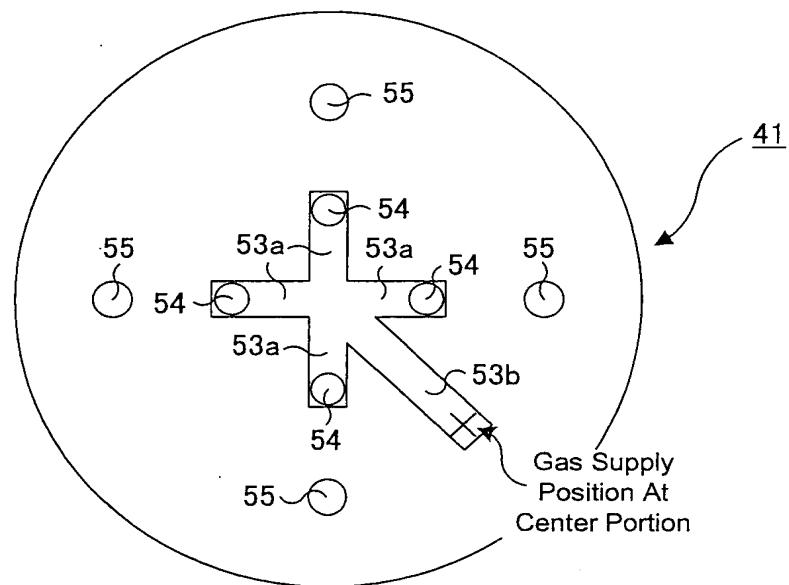
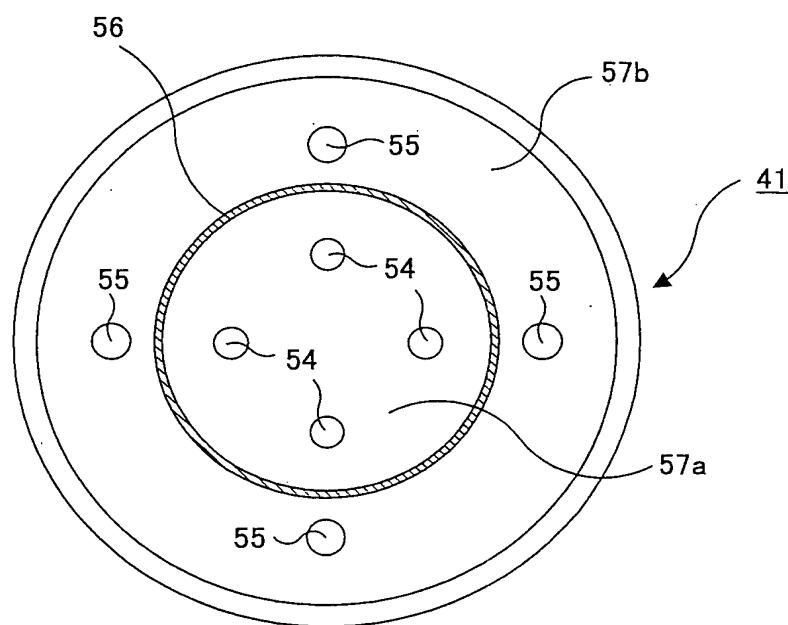


FIG.6 Diagram As Seen From Arrow C

5/13

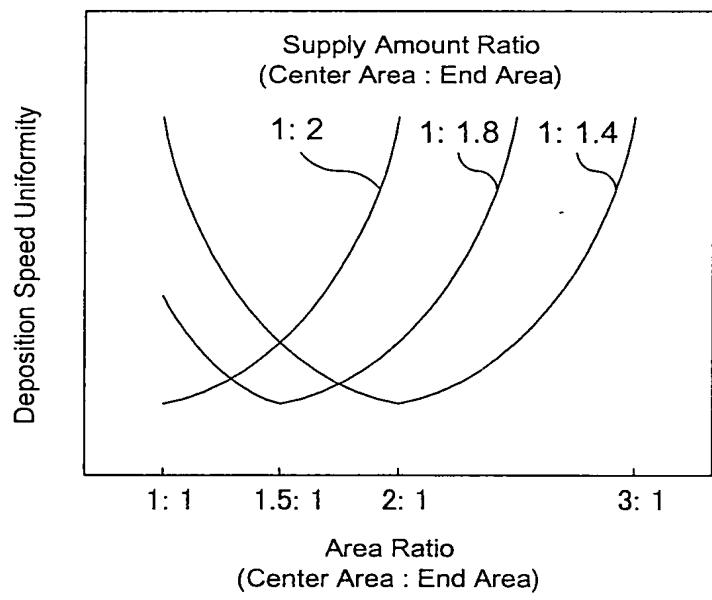
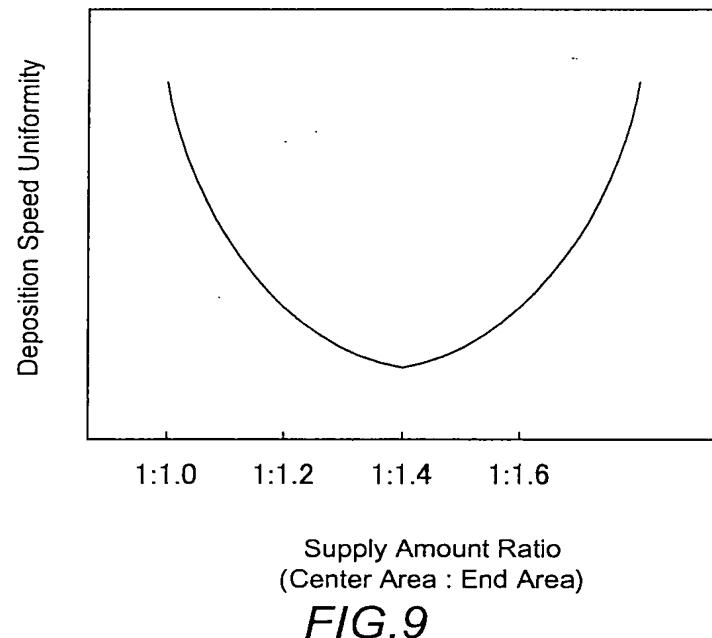


*FIG.7* Diagram As Seen From Arrow D



*FIG.8* Diagram As Seen From Arrow E

6/13



7/13

FIG. 11

Gas Species	SiH4/O2/Ar	SiF4/SiH4/O2/Ar	SiH4/CH4/Ar	SiH4/N2/Ar	SiH4/N2/CH4/Ar	C6F6/Ar	3MS/(Ar or He)	3MS/O2/Ar
Gas Flow Rate (sccm)	200/500/50	120/80/400/50	10/20/200	45/175/200	10/10/15/200	30/200	60/200	60/15/200
Center Area : End Area	1:1	1:4	1:4	1:2	1:4	1:1.5	1:0.25	1:0.25
Pressure (Pa)	0.25	1.0	2.0	1.0	2.0	30	30	50
Upper Electrode Power (kW)	2.7	2.7	1.0	1.0	1.0	1.0	0.6	0.6
Lower Electrode Power (kW)	1.0	1.0	0.5	0.5	0.5	0.2	0.1	0.1
Substrate Temperature(°C)	350-390	350-390	350-390	350-390	350-390	350-390	250-400	250-400

	Substitutable Gases
SiH4	TEOS, Si2H6
SiF4	SiH2F2, Si2F6
CH4	C2H6, C3H8, C2H4, C2H2
C6F6	CF4, C2F6, C3F8, C5F8
N2	N2O, NO
O2	N2O, NO, CO, CO2, O3
$(\text{CH}_3)_3\text{SiH}$ Trimethylsilane	$(\text{CH}_3)_2\text{SiH}_2$ , $(\text{CH}_3)_4\text{Si}$ , DMDM, TMCTS, V3D3, HMDSO, OMCATS

**DMDM:** Dimethyldimethoxysilane  
**TMCTS:** 1,3,5,7-Tetramethylcyclotetrasiloxane  
**V3D3:** 1,3,5-Trimethyl-1,3,5-trivinylcyclotrisiloxane  
**HMDSO:** Hexamethoxydisiloxane  
**OMCTS:** Octamethylcyclotetrasiloxane

FIG. 12

9/13

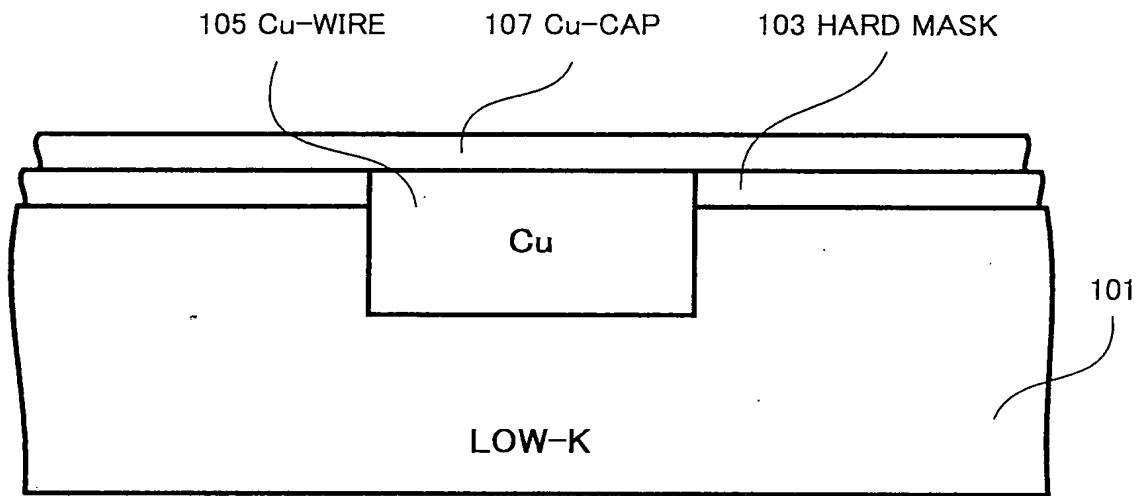


FIG.13

10/13

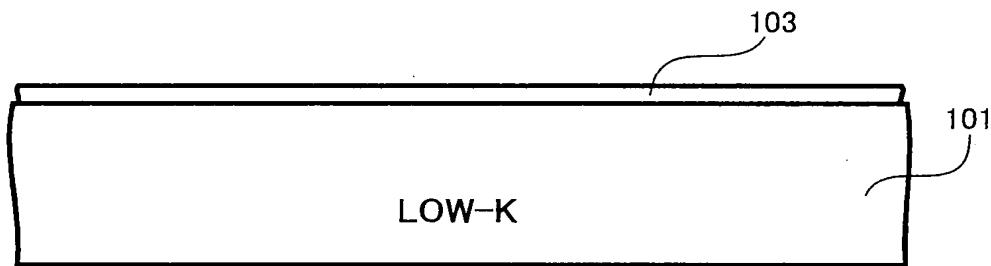


FIG. 14A

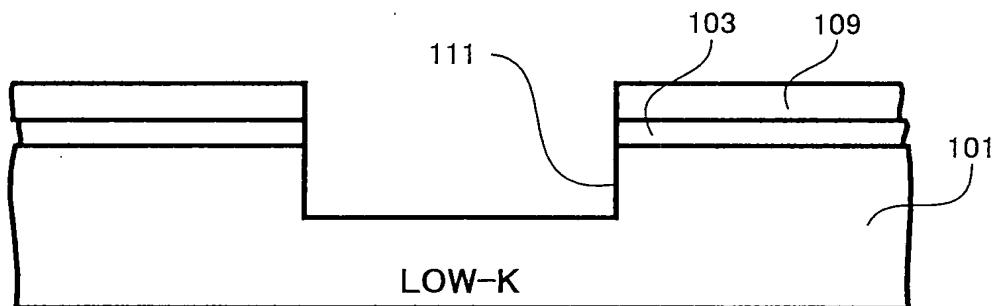


FIG. 14B

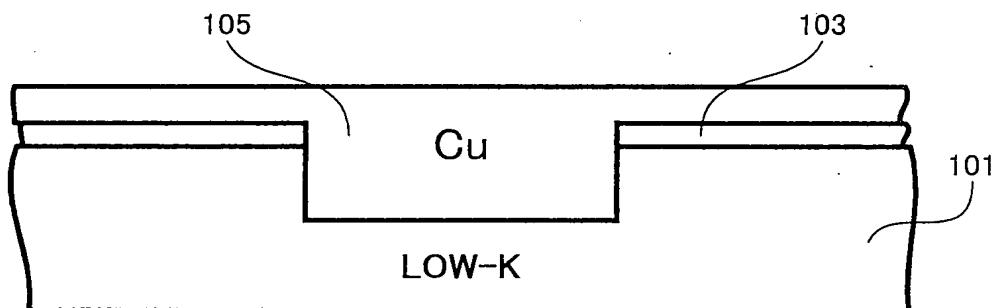


FIG. 14C

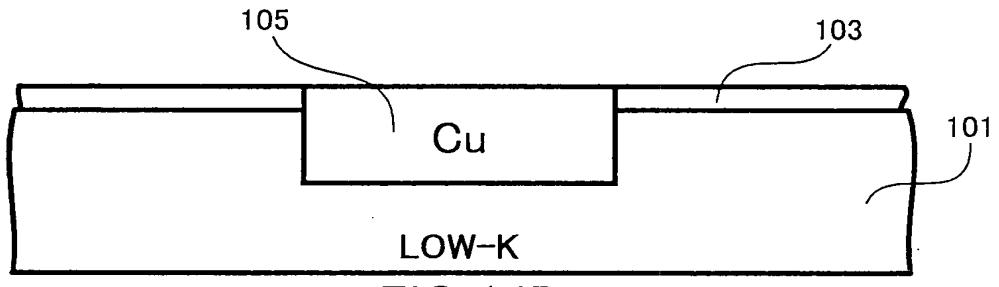


FIG. 14D

11/13

He(C/E) (sccm)	HN3(C/E) (sccm)	O2(C/E) (sccm)	T/B (w)	Pressure (Torr)	Temperature (°C)	Time (minute)	Thickness (Angstrom)	Unification (1sgma%)
300/300	40/40	--/--	700/0	2.9	350	1.0	500	2.5
150/150	--/--	--/--	400/0	4.5	350	1.5	500	2.1
150/150	--/--	7.5/7.5	400/0	4.5	350	9.0	5000	4.0

FIG. 15

12/13

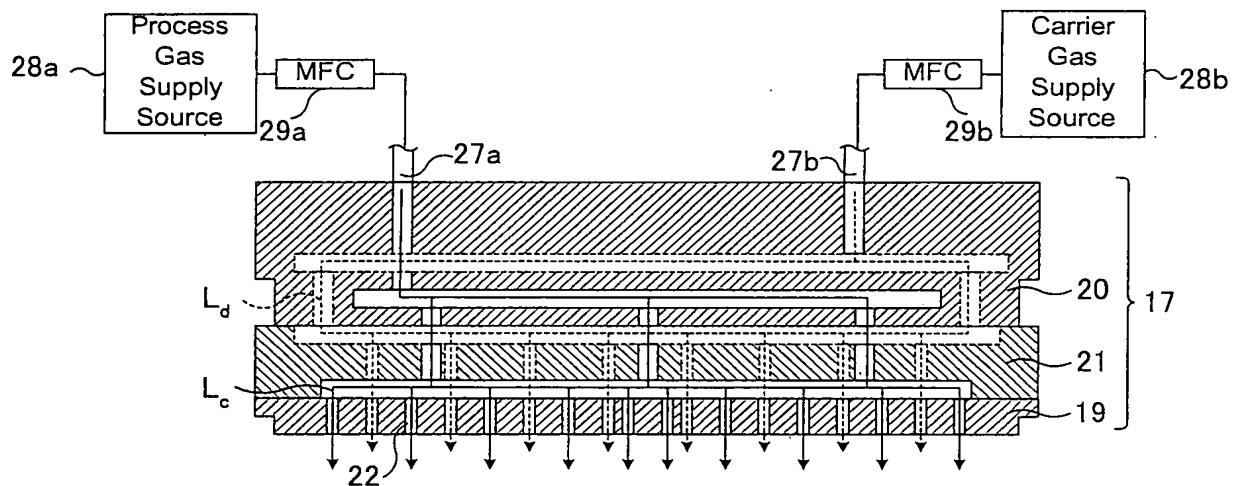


FIG. 16

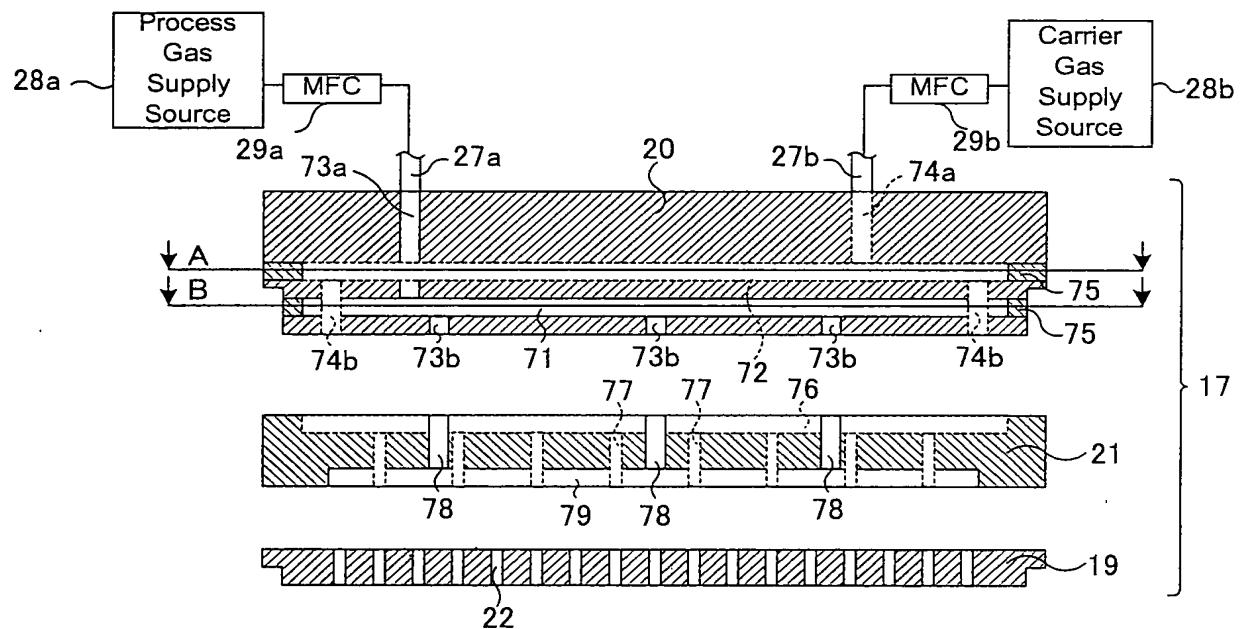


FIG. 17

